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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Andrew D. Flockhart

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EXAMINER

WAI, ERIC CHARLES

ART UNIT

PAPER NUMBER

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/673,118	<b>Applicant(s)</b> FLOCKHART ET AL.	
	<b>Examiner</b> ERIC C. WAI	<b>Art Unit</b> 2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3, 6-14, 16-26 and 28-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6, 7, 9-11, 13, 14, 16-26, 28, 30, 31, 33 and 34 is/are rejected.
- 7) ☒ Claim(s) 8, 12, 29 and 32 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/21/2008</u>  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. Claims 1-3, 6-14, 16-26, and 28-34 are presented for examination.
2. The finality of Final Rejection dated 10/28/2008 is withdrawn.

### ***Claim Objections***

3. Claims 1-3 and 6-14 are directed to a process, however, the process does not include a physical structure and is not tied to another statutory class, and as such the claims are not directed to statutory subject matter.
4. For example, a “computer implemented method” is a process claim with defined structural and functional interrelationships and tied to a machine statutory class and therefore directed to statutory subject matter.
5. Appropriate correction or amendment is required.

### ***Claim Rejections - 35 USC § 101***

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 16-19, and 20-25 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.
8. Claims 16 and 20 recite an apparatus; however, it appears that the system would reasonably be interpreted by one of ordinary skill in the art as software per se, failing to

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be tangibly embodied or include any recited hardware as part of the system.

Furthermore, software is an equivalent means for performing the function of claim 16.

The components of claim 20 can all be construed as software.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-3, 6-7, 13, 16-17, 20-21, 24-26, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zenner (US Pat No. 6,718,330) in view of Balasubramanian (US Pat No. 6,687,257).

11. Regarding claim 1, Zenner teaches a method for balancing resource loads, comprising:

receiving a work request (col 2 lines 21-23, "inbound request");

determining for each of a plurality of service locations a probability of servicing said work request within a target time (col 2 lines 32-36, abstract, wherein a completion time prediction is indicative of an agent's ability to process the transaction); wherein said determined probability includes determining a relative probability for each service

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location included in the plurality of service locations (col 2 lines 36-39, “likelihood of completing the work first”);

selecting at least a first service location having at least one of a greatest determined probability of servicing said work request within said target time and a sufficient determined probability of servicing said work request within said target time; and assigning said work request to said selected service location (col 2 lines 36-39).

12. Zenner does not explicitly teach that the relative probability is determined by calculating a number of opportunities to service said work request within said target time by each service location included in the plurality of service locations. Zenner only teaches that work is assigned to the agent having the highest likelihood of completing the work first in the group of agents (col 2 lines 36-39).

13. However, Balasubramanian teaches a method in which slots in a task queue are representative of a particular bandwidth or time slice of processor usage (col 12 lines 34-42). A greater number of available slots is indicative of a greater number of opportunities to service a work request within a target time (col 12 lines 58-60).

14. It would have been obvious to modify Zenner to utilize the task queue as taught by Balasubramanian. Balasubramanian teaches that enrolling a task in the task list not only determines the order of execution but allocates a particular amount of processor resource to that task (col 12 lines 42-45).

15. Regarding claims 2 and 6, Zenner teaches that selecting at least a first service location comprises selecting at least a first service location having a sufficient

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determined probability or at least a selected minimum number of opportunities to service said work request within said target time (col 2 lines 36-39, wherein it is inherent that agent must be able to process the task).

16. Regarding claim 3 and 7, Zenner teaches the step of selecting at least a first service location comprises selecting at least a first service location having a greatest determined probability or a greatest number of opportunities to service said work request within said target time (col 2 lines 36-39).

17. Regarding claim 13, Zenner teaches that each of said service locations is associated with a queue capable of containing a plurality of work requests (col 2 line 37).

18. Regarding claim 16, it is the apparatus claim of claim 1 above. Therefore, it is rejected for the same reasons as claim 1 above.

19. Regarding claim 17, Zenner teach that said service location is associated with a queue and comprises at least one associated resource (col 2 line 37 and col 3 lines 25-27).

20. Regarding claim 20, Zenner teaches a work allocation apparatus, comprising:  
a plurality of service locations (col 2 lines 32-35);

a plurality of service resources, wherein at least a one of said service resources is associated with each of said service locations (wherein it is inherent that a computer system has associated resources);

a communication network interface, operable to receive work requests (col 2 lines 22-25, wherein it is inherent that a network interface exists); and

a controller, wherein said controller operates to calculate a relative probability that a work request will be serviced within a target time for each service location included in the plurality of service locations, wherein a work request received at said communication network interface is assigned to a service location having at least one of a highest probability of servicing said work request within a predetermined target time and a sufficient probability of servicing said work request within a predetermined target time (col 2 lines 32-36).

21. Zenner does not explicitly teach that the relative probability is determined by calculating a number of opportunities to service said work request within said target time by each service location included in the plurality of service locations. Zenner only teaches that work is assigned to the agent having the highest likelihood of completing the work first in the group of agents (col 2 lines 36-39).

22. However, Balasubramanian teaches a method in which slots in a task queue are representative of a particular bandwidth or time slice of processor usage (col 12 lines 34-42). A greater number of available slots is indicative of a greater number of opportunities to service a work request within a target time (col 12 lines 58-60).

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23. It would have been obvious to modify Zenner to utilize the task queue as taught by Balasubramanian. Balasubramanian teaches that enrolling a task in the task list not only determines the order of execution but allocates a particular amount of processor resource to that task (col 12 lines 42-45).

24. Regarding claim 21, Zenner teaches that said service resources comprise service agents (col 2 lines 22-25).

25. Regarding claim 24, Zenner teaches that said communication network interface is interconnected to at least one of an Internet protocol network and a public switched telephone network (col 1 lines 41-59).

26. Regarding claim 25, Zenner teaches that said service locations each comprise a server (col 4 lines 13-29).

27. Regarding claims 26, and 28, they are the apparatus claims of claim 1. Therefore, they are rejected for the same reasons as claim 1.

28. Claims 14, 18, and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zenner (US Pat No. 6,718,330) and Balasubramanian (US Pat No. 6,687,257) in view of Applicant's Admitted Prior Art (AAPA).



29. Regarding claims 14 and 18, Zenner and Balasubramanian do not teach that said service location comprise at least one split.

30. However, AAPA teaches the use of agents in call center systems and the common practice of dividing up agents into splits to differentiate skills and capabilities (pg 1 lines 10-20). Agents are defined as background tasks that perform tasks for users (Microsoft Computer Dictionary, 5<sup>th</sup> Edition, 2002). It would have been obvious to one of ordinary skill in the art to modify Zenner to teach using a split. One would be motivated by the desire to group service locations according to skills and capabilities to target work requests.

31. Regarding claim 22, Zenner and Balasubramanian do not teach that said service resources are organized into splits

32. However, AAPA teaches the use of agents in call center systems and the common practice of dividing up agents into splits to differentiate skills and capabilities (pg 1 lines 10-20). It would have been obvious to one of ordinary skill in the art to modify Zenner to teach using a split. One would be motivated by the desire to group service locations according to skills and capabilities to target work requests.

33. Regarding claim 23, Zenner and Balasubramanian do not teach that said work request is associated with a request for assistance.

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34. However, AAPA teaches the use of load balancing work in call centers (pg 1 lines 6-20). It would have been obvious to one of ordinary skill in the art to extend the teachings of Zenner to call centers where each work request is associated with a request for assistance.

35. Claims 9-11, 19, 30-31, and 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zenner (US Pat No. 6,718,330) and Balasubramanian (US Pat No. 6,687,257) in view of Costantini et al. (US Pat No. 5,506,898).

36. Costantini was disclosed on IDS dated 12/14/2006.

37. Regarding claims 9-10, Zenner and Balasubramanian do not teach calculating an advance time metric or that the advance time metric comprises an expected wait time, wherein said step of selecting comprises selecting a location having a lowest expected wait time.

38. Costantini teaches the use of an average rate of advance in determining the estimated wait time in a queue (Fig 5, 502 and 504).

39. It would have been obvious to one of ordinary skill in the art at the time of the invention to include the use a measure such as a weighted advance time or average rate of advance in determining the estimated wait time. One would be motivated by the desire to produce a more accurate estimate of how long an item would or will have to wait in a particular queue before being serviced as evidenced by Costantini (col 2 lines 4-10).

40. Regarding claim 11, Costantini teaches that said advance time metric comprises a weighted advance time trend, wherein said step of selecting comprises selecting a location having a lowest weighted advance time trend (Fig 3, 302).

41. Regarding claim 19, it is the apparatus claim of claim 9 above. Therefore, it is rejected for the same reasons as claim 9 above.

42. Regarding claims 30-31, and 33-34, they are the apparatus claims of claims 9, 11, and 15. Therefore, they are rejected for the same reasons as claims 8, 11, and 15.

#### ***Allowable Subject Matter***

43. Claims 8, 12, 29, and 32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Response to Arguments***

44. Applicant's arguments with respect to claims 1-3, 6-14, 16-26, and 28-34 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

45. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

46. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric C. Wai whose telephone number is 571-270-1012. The examiner can normally be reached on Mon-Thurs, 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng - Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/VAN H NGUYEN/  
Primary Examiner, Art Unit 2194

/Eric C Wai/  
Examiner, Art Unit 2195